

SUPPORT FOR THE AMENDMENT

Applicants have amended claim 1 to specifically identify the N-substituted maleimide compounds as N-substituted maleimide compounds. No new matter would be added to this application by entry of this amendment as those of ordinary skill in the art would immediately recognize each of N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide as species of N-substituted maleimides from the disclosure of N-substituted maleimides of cyclohexylmaleimide, methylmaleimide and ethylmaleimide.

Upon entry of this amendment claims 1-20 will remain active in this application.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a positive photosensitive resin.

Electrode overcoatings formed from positive photosensitive resin materials are used in the preparation of display devices such as thin film transistors, liquid crystal display devices and organic EL devices. Performance characteristics in terms of heat resistance, solvent resistance, baking resistance, transparency, substrate adhesion, storage stability, processing margin, resolution, sensitivity, and/or reliability are important as well as prevention from contamination of a liquid crystal compound. Photosensitive resins which address these aims are sought.

The claimed invention addresses this problem by providing a positive photosensitive resin composition comprising (A) an alkali-soluble resin comprising at least one of **N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide**, having a Mn of 2,000-20,000, (B) a 1,2-quinone diazide of a trisphenol and (C) a crosslinking agent containing epoxy substituted carbocycles. Applicants have discovered that selection of an alkali-soluble resin comprising specific N-substituted maleimide compounds with 1,2-quinone diazide compounds as claimed with a cross linking agent provides for a useful positive photoresist. Such a photoresist is nowhere disclosed or suggested in the cited art of record.

The rejections of claims 1-20 under 35 U.S.C. § 103(a) over Takagi et al. (JP 2003-195501) in view of Suwa et al. (U.S. Patent 6,593,043 or CN 135635) is respectfully traversed.

The cited art of record fails to disclose an alkali-soluble resin in which the N-substituted maleimide is at least one of **N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide**.

Page 4 of the Official Action characterizes JP ‘105 as disclosing an alkali-soluble resin comprising 50 mol% of N-substituted maleimide and 1,2-quinone diazide, and at least

one crosslinking agent. While it is asserted that N-substituted maleimide corresponds to the N-substituted maleimide of claim 1, applicants note that claim 1 as amended on April 27, 2009 recites that the N-substituted maleimide is selected from **N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide**. Since 4-hydroxy phenol maleimide is neither an N-cyclohexylmaleimide, an N-methylmaleimide nor an N-ethylmaleimide, the claimed invention clearly would not have been obvious from the cited reference as the reference fails to disclose an alkali-soluble resin as claimed. The examiner has erred in concluding that 4-hydroxy phenol maleimide meets the claimed N-substituted maleimide.

The secondary references fail to cure the basic deficiencies of the primary reference.

Suwa et al. has been cited for disclosure of a quinone diazide core compound of TrisP-HAP, TrisP-PA. The reference fails to disclose or suggest the claimed 1,2-quinone diazide or an alkali-soluble resin comprising at least one of **N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide**.

CN '635 has not been cited in the text of the Office Action but appears to have been cited for a disclosure of a trisphenol diazide compound as claimed. There is no disclosure or suggestion of an alkali-soluble resin comprising at least one of N-cyclohexylmaleimide, N-methylmaleimide and N-ethylmaleimide.

As the cited art of record fails to disclose or suggest an alkali-soluble resin as claimed, containing specific N-substituted maleimides, the claimed invention is clearly not rendered obvious from these references and accordingly withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

The rejection of claims 1, 3-5, 8 and 10-20 under the judicially created doctrine of obviousness-type double patenting is respectfully traversed.

Applicants note the October 2, 2003 publication date of the PCT application corresponding to US 7,001,705 relative to applicants' PCT filing date of July 20, 2004.

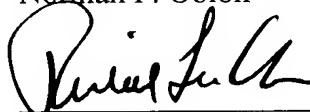
U.S. '705 fails to disclose or claim the claimed trisphenol 1,2-quinone diazide. While quinine diazide compounds are described beginning at column 4, line 50 there is no disclosure or claim of a trisphenol quinine diazide as claimed. In the absence of a disclosure or claiming of a trisphenol 1,2-quinone diazide compound as claimed, the claimed invention is clearly not rendered obvious from the claims and accordingly withdrawal of the rejection for obviousness-type double patenting over US 7,001,705 is respectfully requested.

Applicants submit this application is now in condition for allowance and an early notification of such action is earnestly solicited.

Respectfully submitted,

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